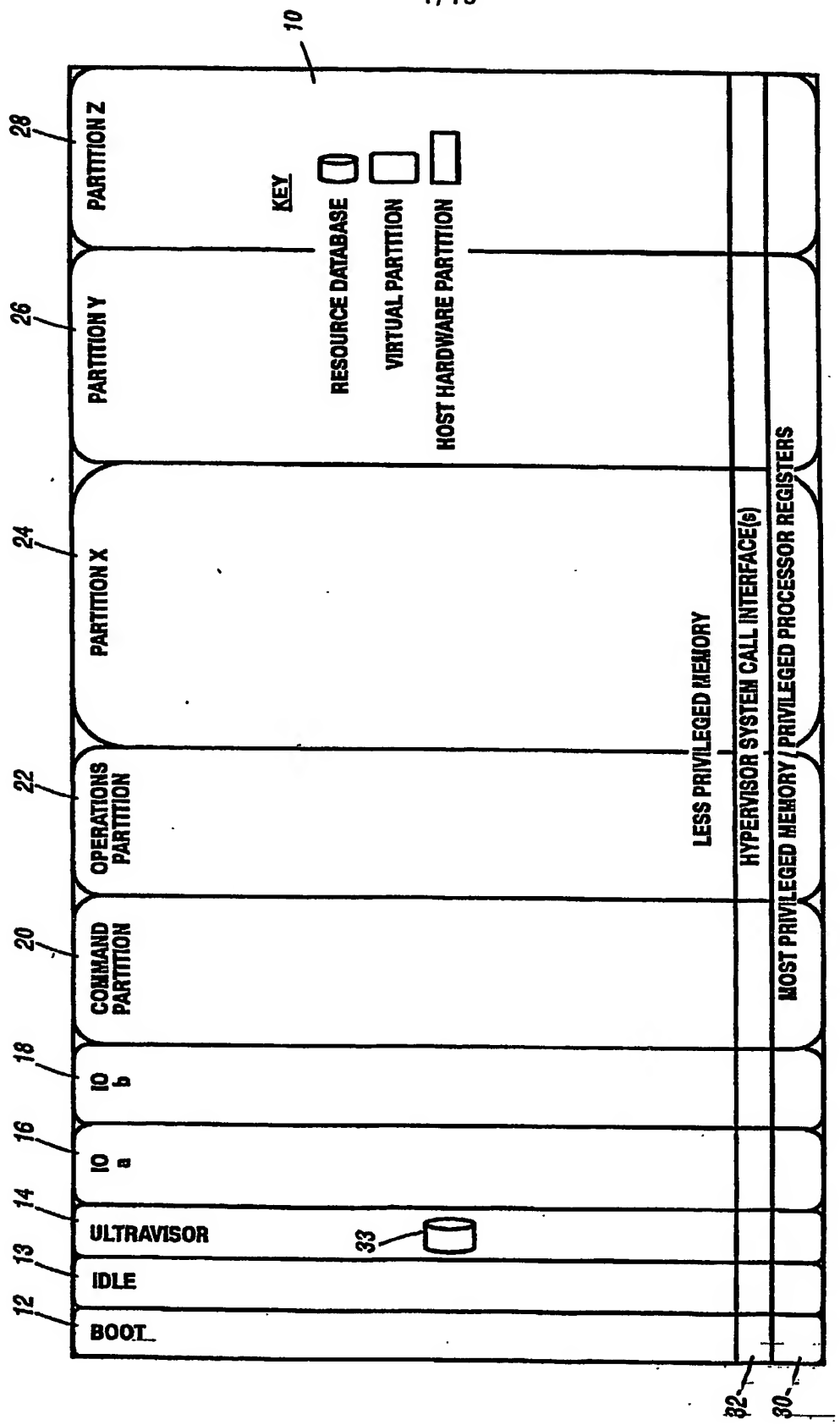
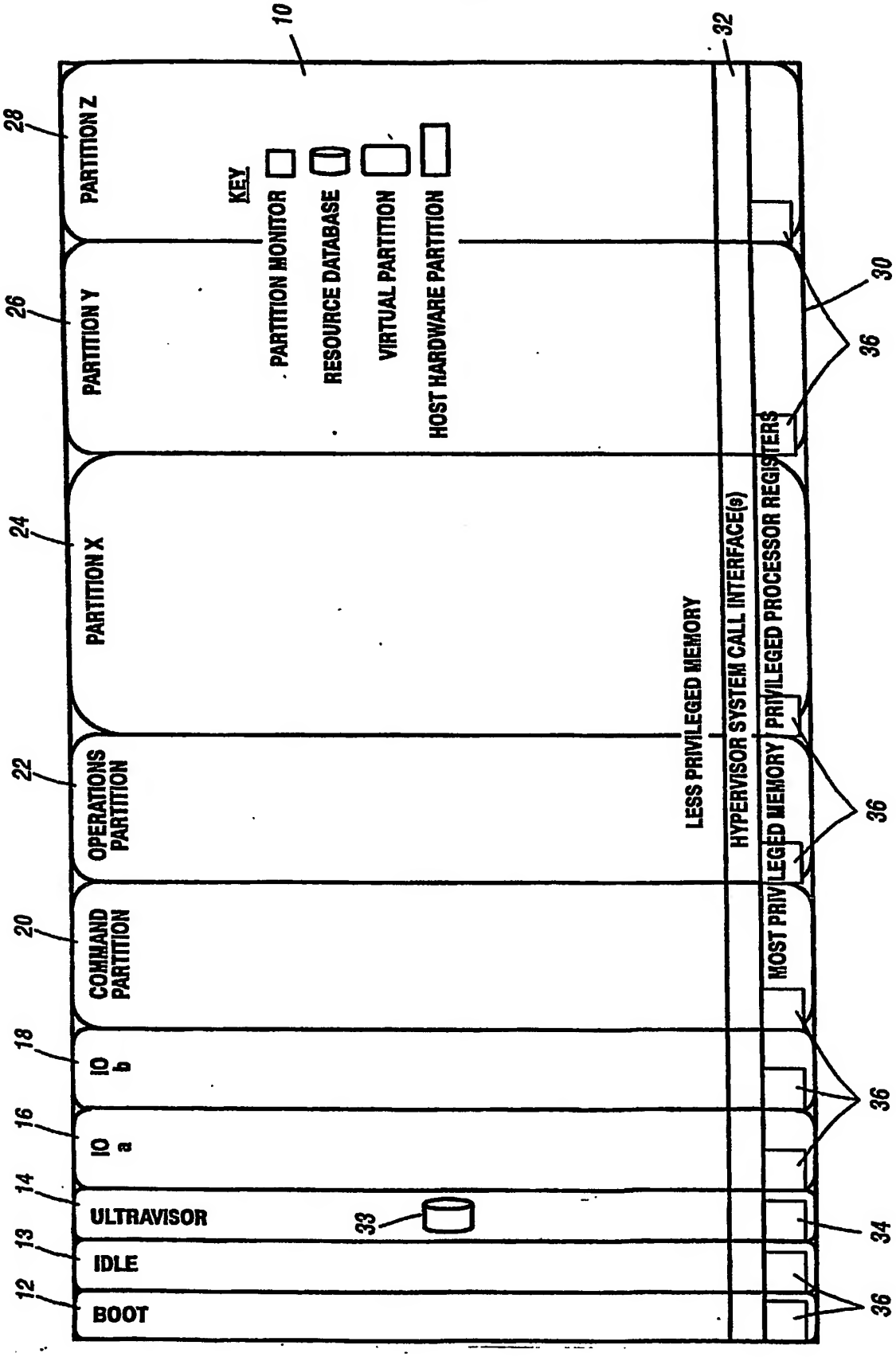



Partitioned Host System

*Figure 1*




Partition Monitors

*Figure 2*

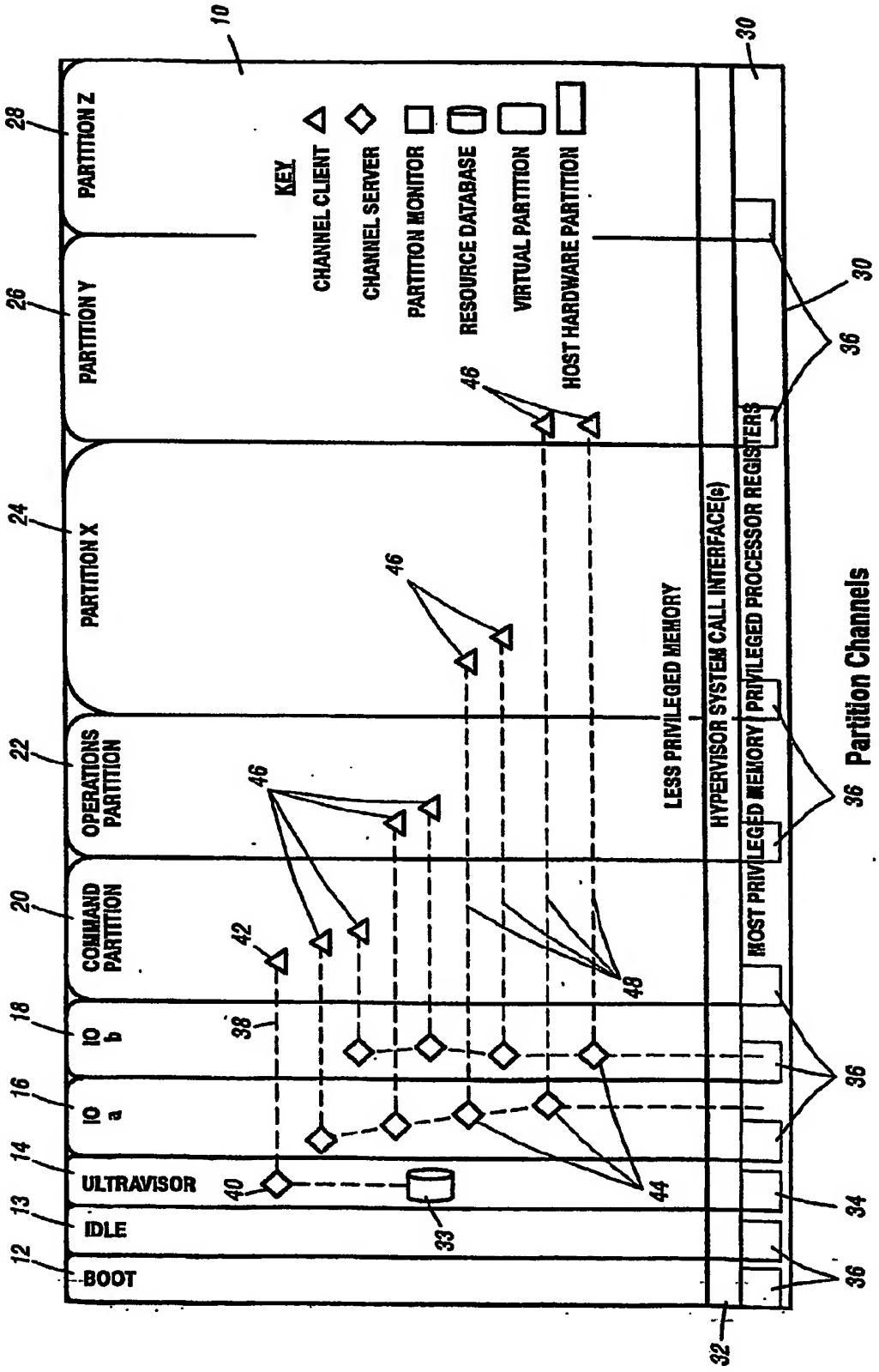
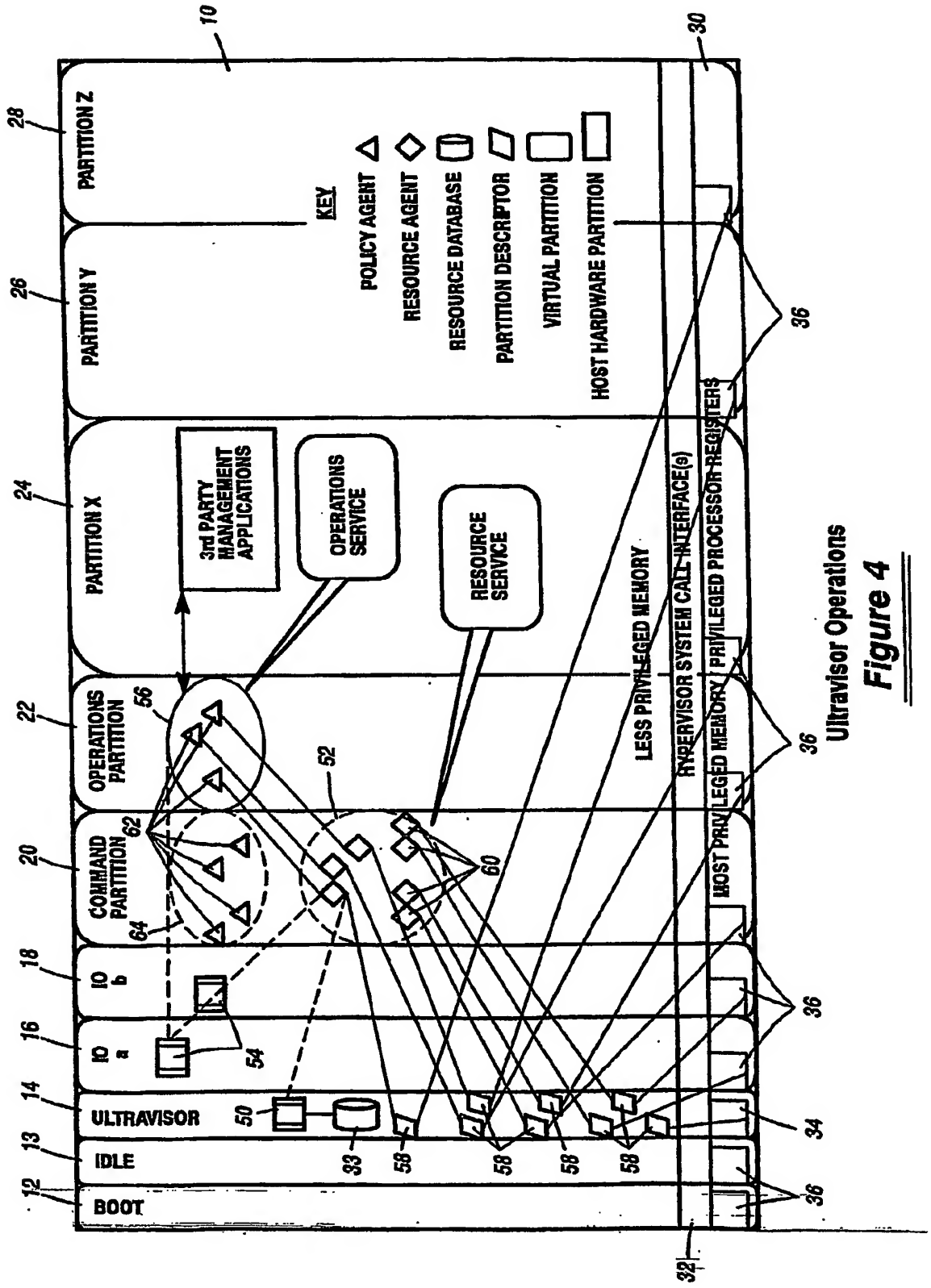
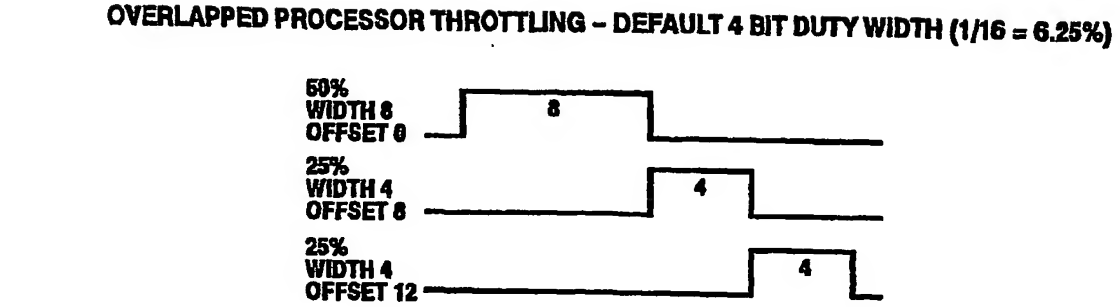



Figure 3 Partition Channels



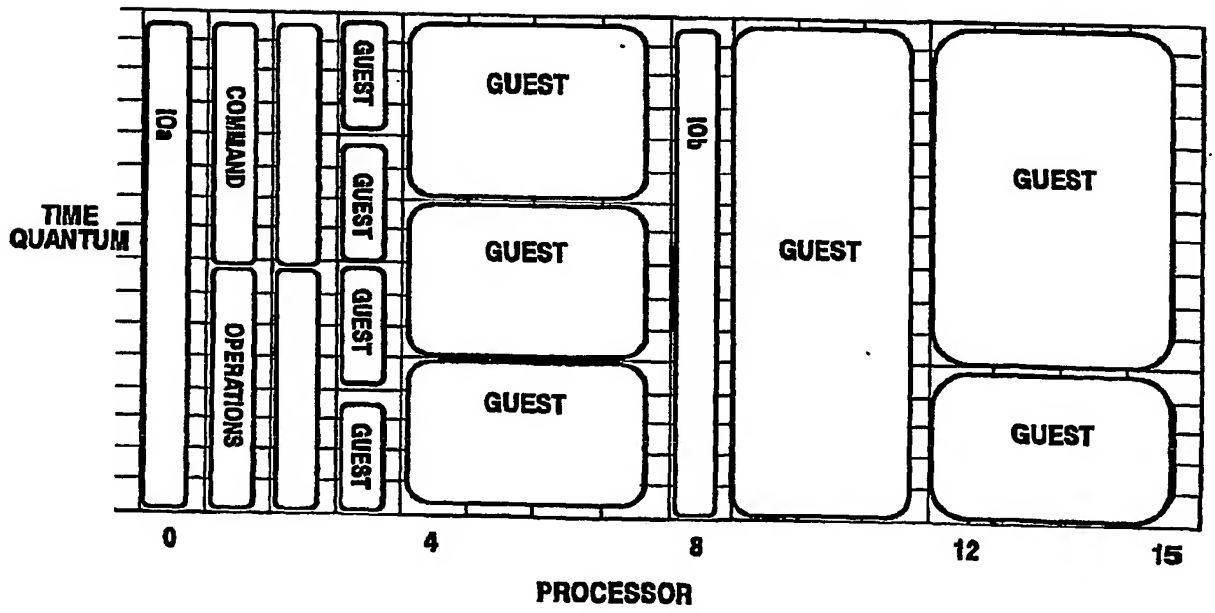

Ultravisor Operations

*Figure 4*




Processor Sharing

***Figure 5***



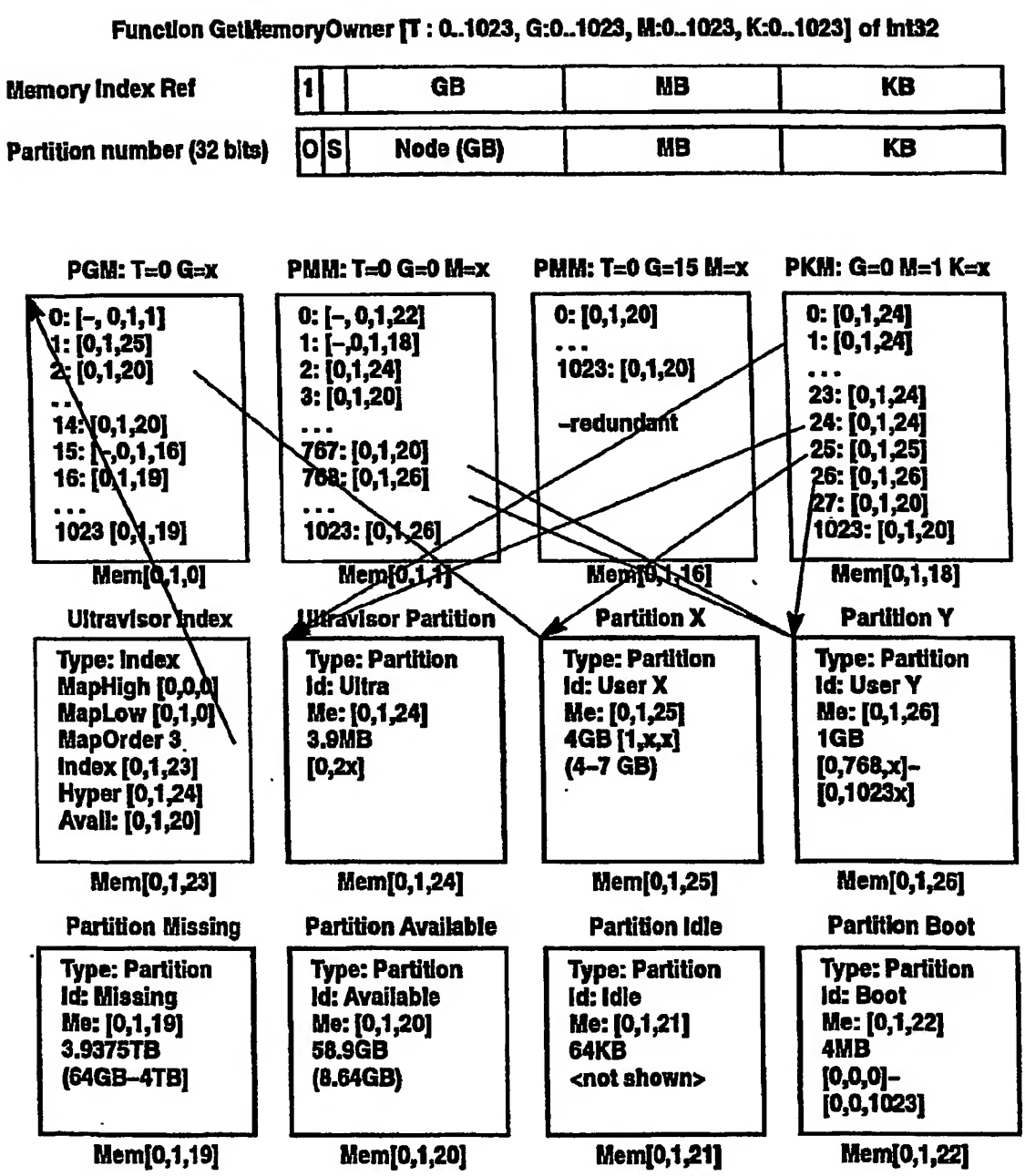

Processor Schedule

***Figure 6***

| $(2^{10})^n$ | SI Prefix | SI Name | Page Table | Pageentry | IA32/EM32T |
|---|---|---|---|---|---|
| 1 | K | kilo | PKM | PKE | PT/PTE |
| 2 | M | mega | PMM | PME | PD/PDE |
| 3 | G | giga | PGM | PGE | PDP |
| 4 | T | tera | PTM | PTE | PML4 |
| 5 | P | peta | PPM | PPE | |
| 6 | E | Exa | PEM | PEE | |
| 7 | Z | zetta | PZM | PZE | |
| 8 | Y | yotta | PYM | PYE | |

SI Prefixes for Page Table Hierarchy

*Figure 7*




**Partition Memory Map**

***Figure 8***

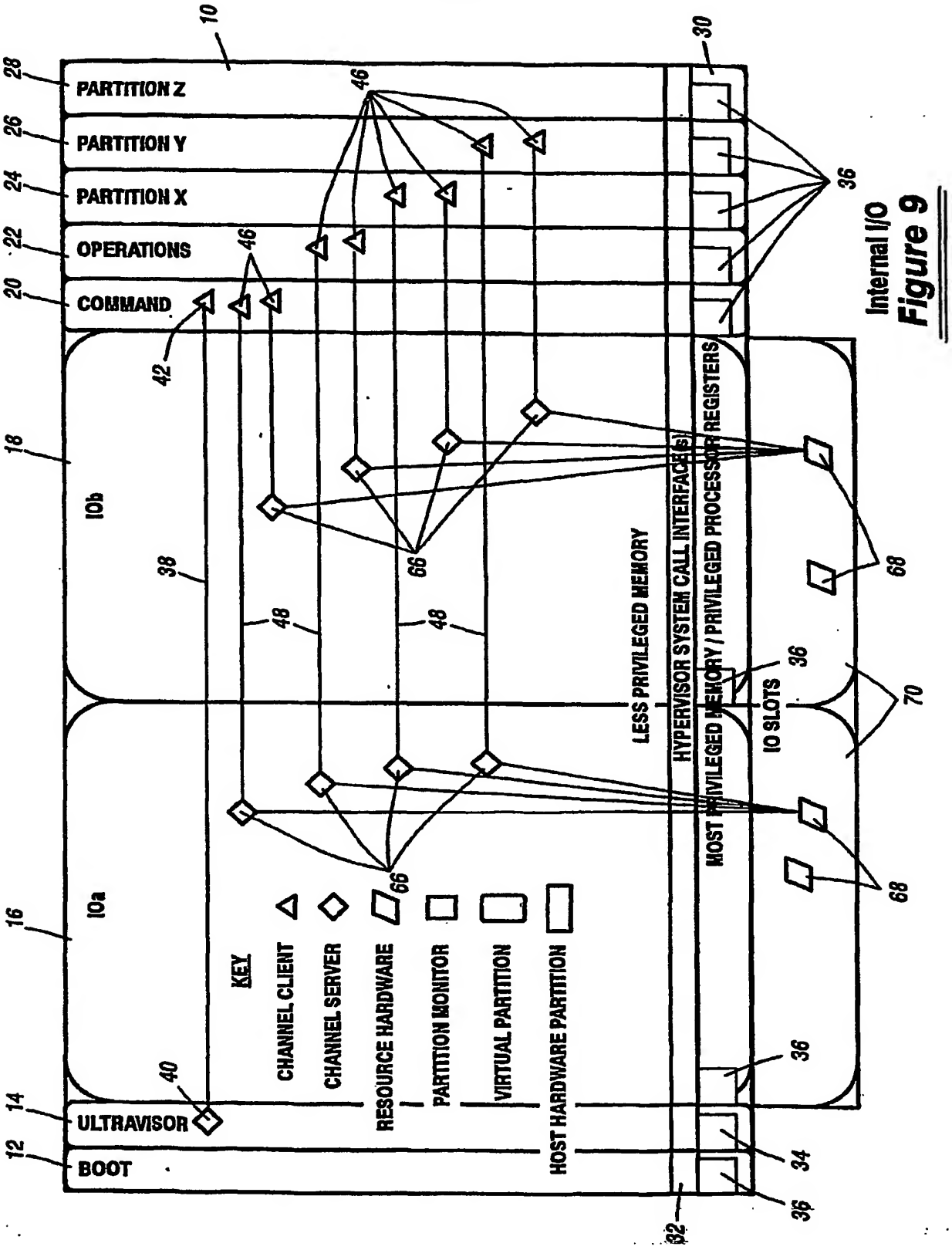
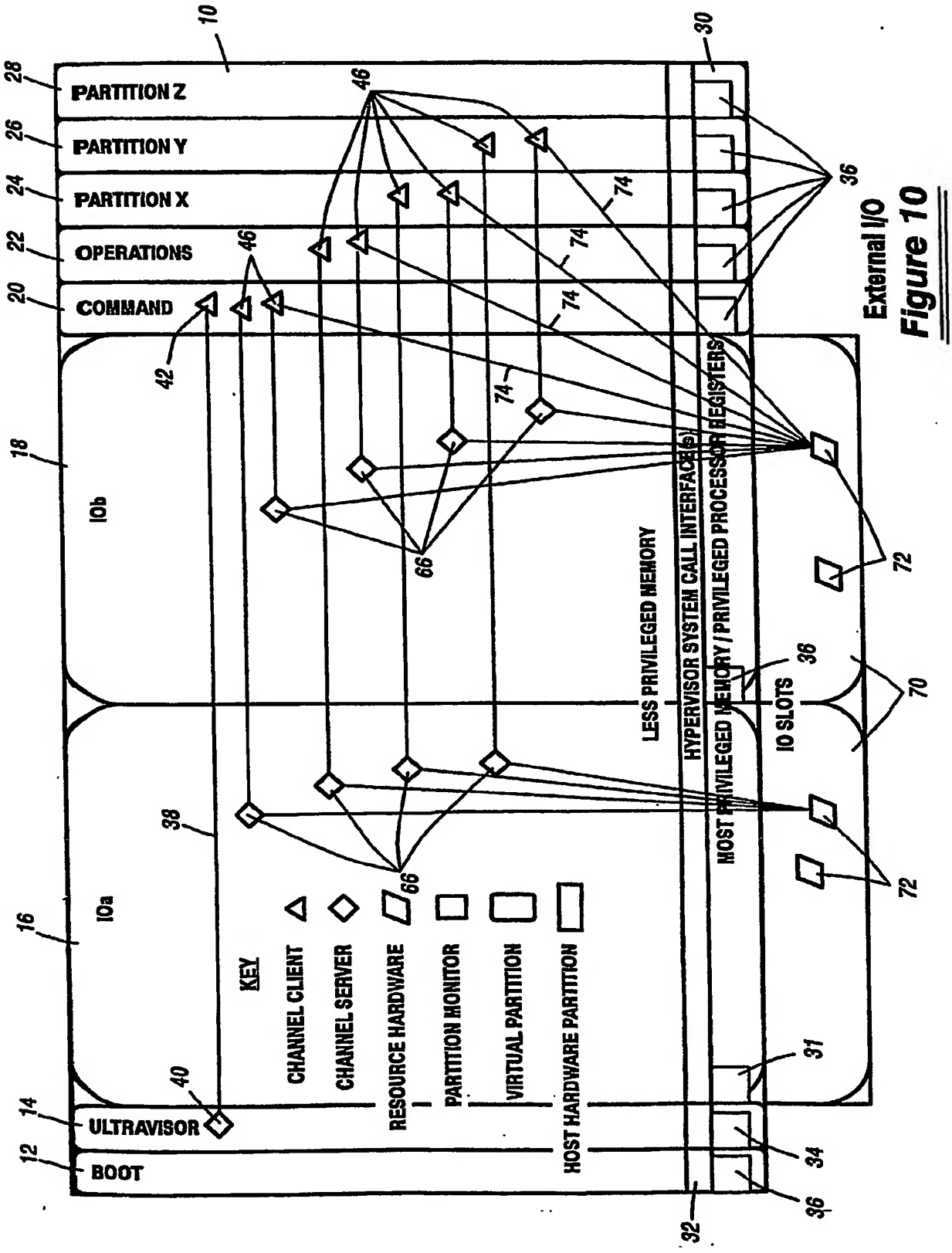
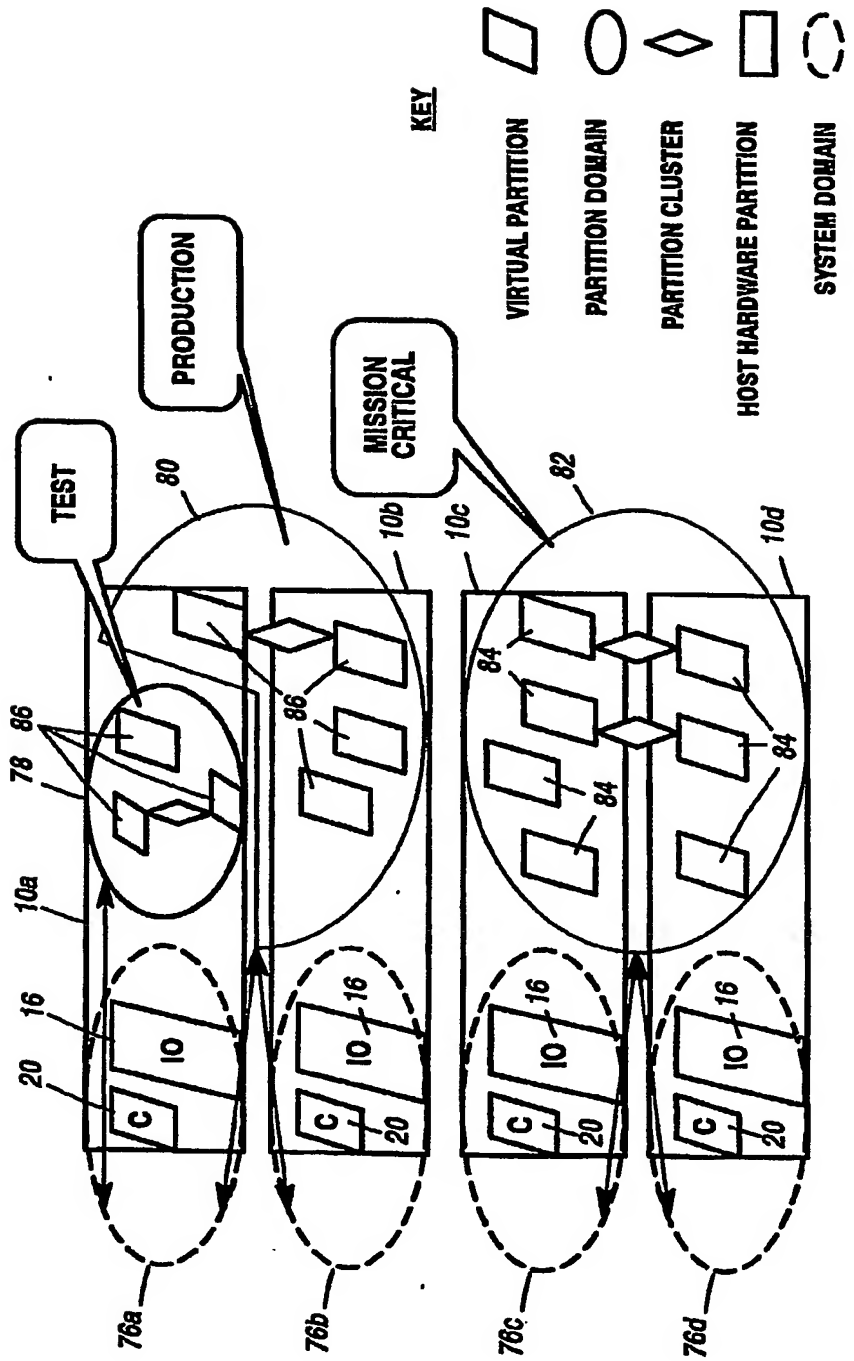

10
30
28
PARTITION Z
26
PARTITION Y
24
PARTITION X
22
OPERATIONS
20
COMMAND
46
36
42
18
IOb
38
48
48
66
68
LESS PRIVILEGED MEMORY
HYPERVISOR SYSTEM CALL INTERFACE(S)
MOST PRIVILEGED MEMORY / PRIVILEGED PROCESSOR REGISTERS
IO SLOTS
36
70
16
IOa
KEY
CHANNEL CLIENT
CHANNEL SERVER
RESOURCE HARDWARE
PARTITION MONITOR
VIRTUAL PARTITION
HOST HARDWARE PARTITION
40
14
ULTRAVISOR
12
BOOT
34
32
Internal I/O

Figure 9



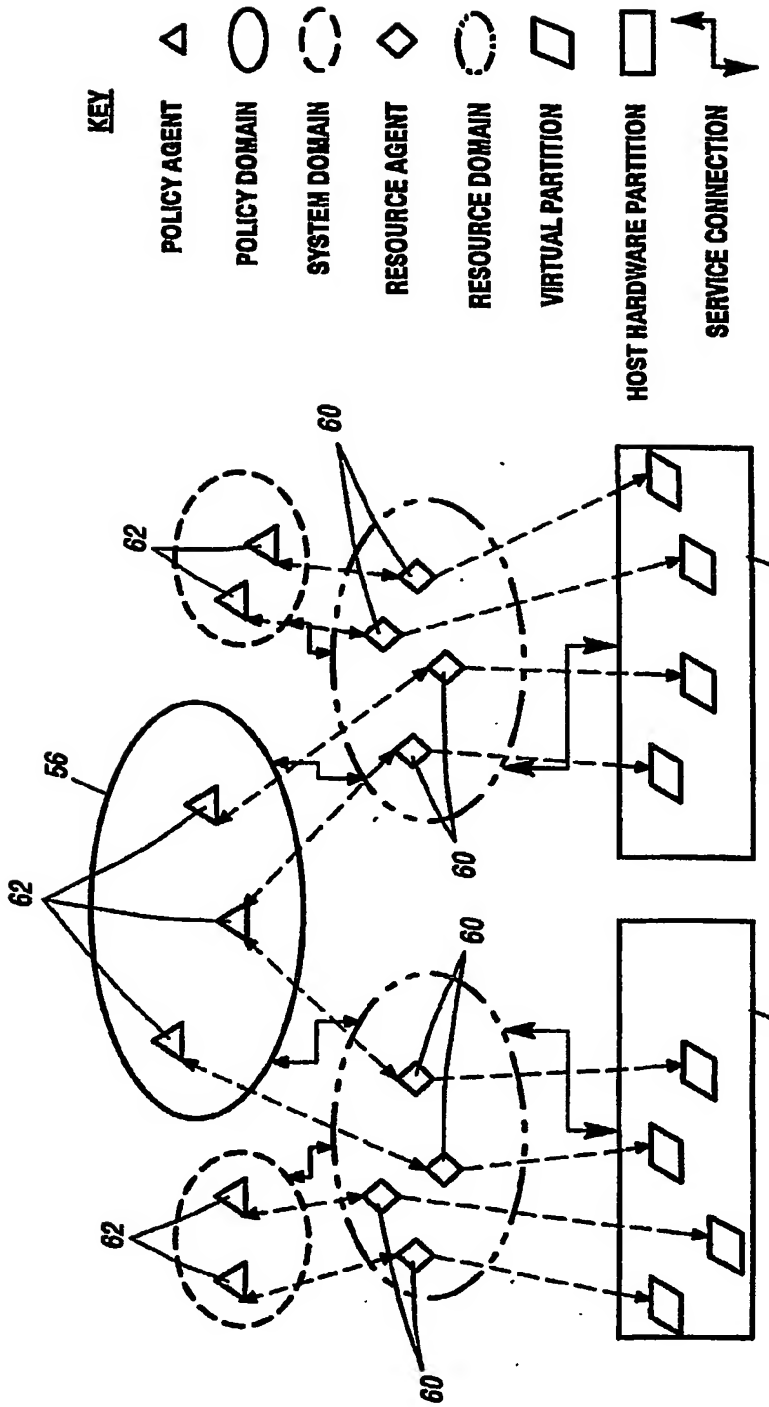

External I/O

Figure 10



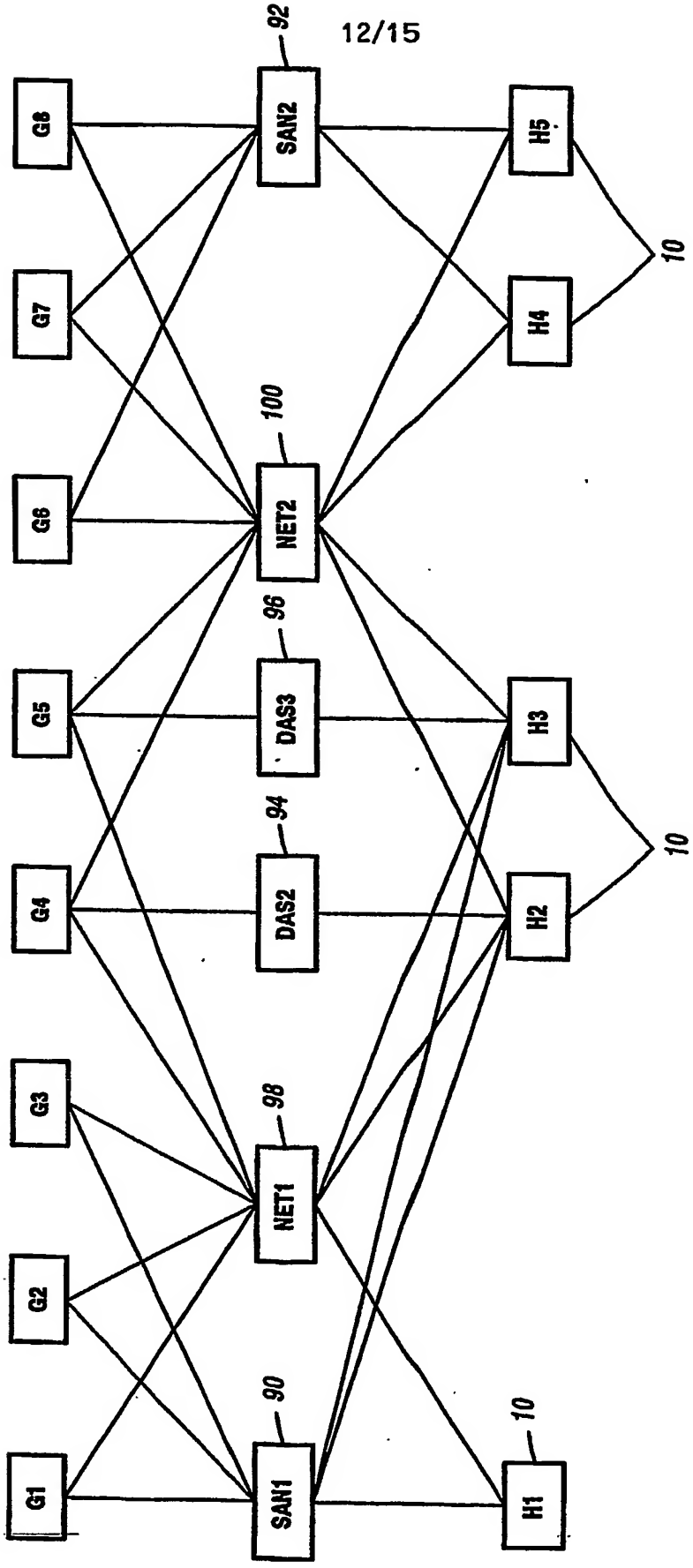

Ultravisor Domains

*Figure 11*



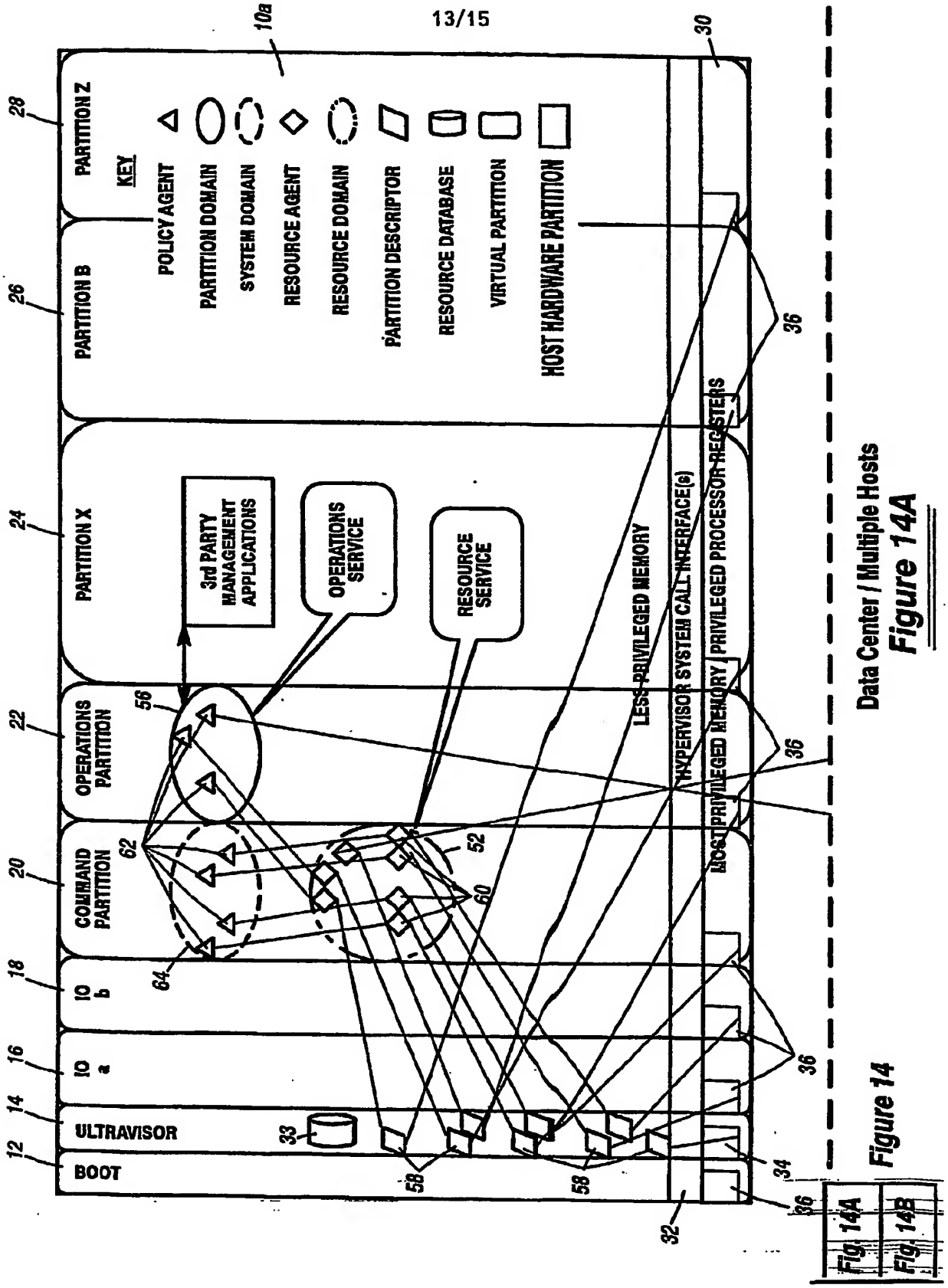

Ultravisor Partition Agents

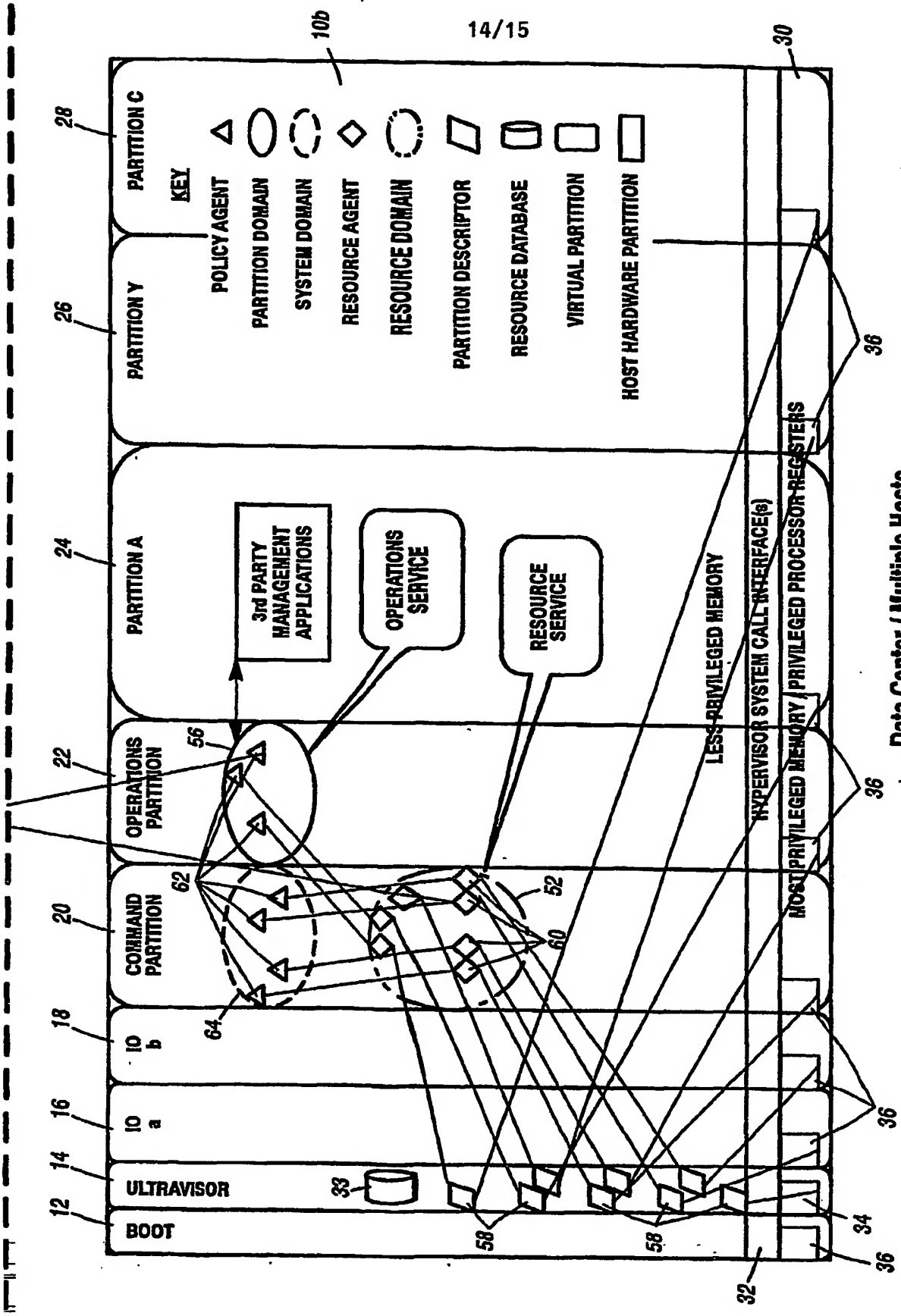
*Figure 12*




Virtual Data Center Zones

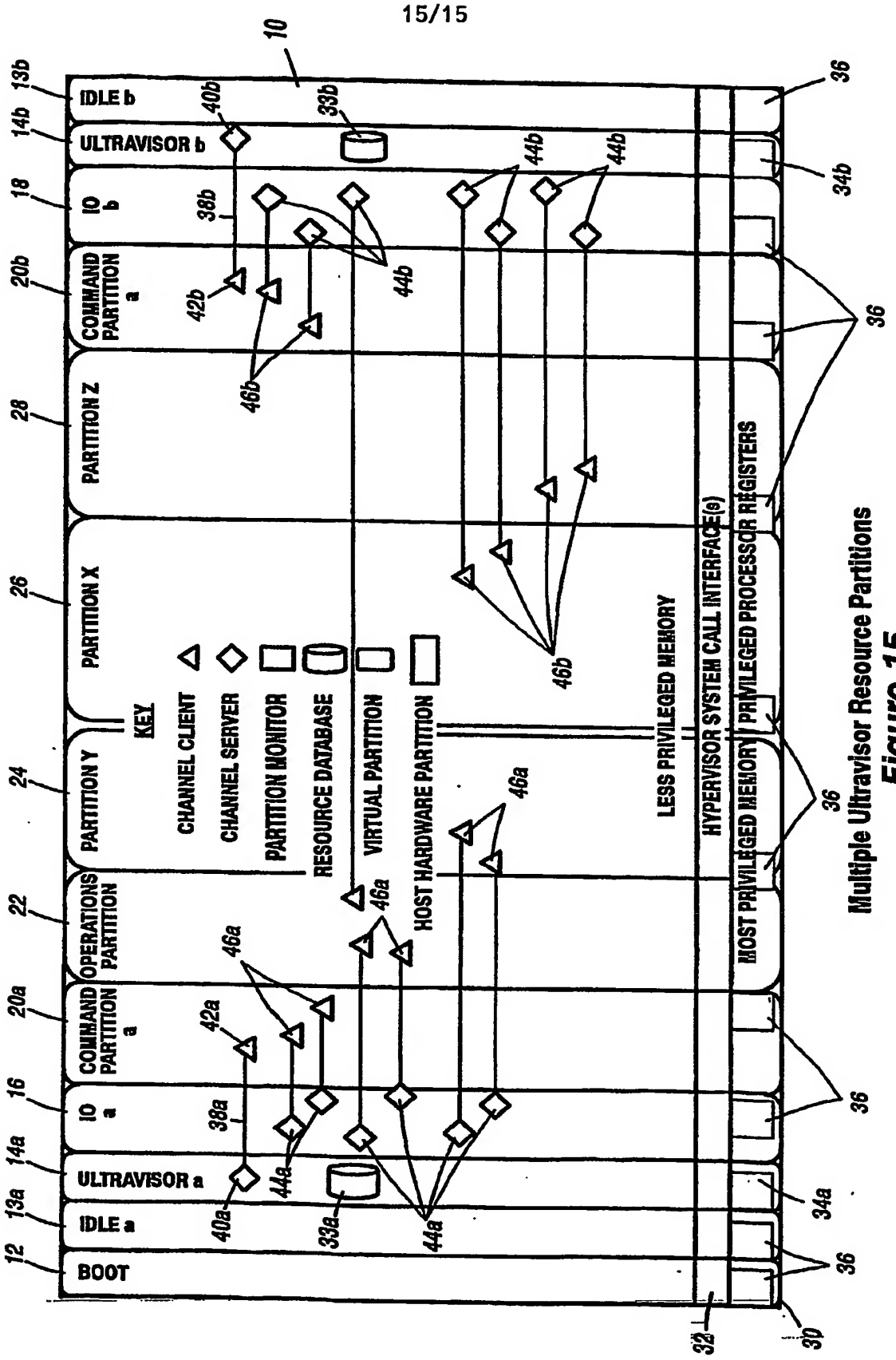
*Figure 13*


10a
30
28
PARTITION Z
KEY
POLICY AGENT
PARTITION DOMAIN
SYSTEM DOMAIN
RESOURCE AGENT
RESOURCE DOMAIN
PARTITION DESCRIPTOR
RESOURCE DATABASE
VIRTUAL PARTITION
HOST HARDWARE PARTITION
26
PARTITION B
24
PARTITION X
3rd PARTY MANAGEMENT APPLICATIONS
OPERATIONS SERVICE
RESOURCE SERVICE
22
OPERATIONS PARTITION
56
20
COMMAND PARTITION
62
64
52
60
18
IO b
16
IO a
14
ULTRAVISOR
33
12
BOOT
58
58
LESS PRIVILEGED MEMORY
HYPERVISOR SYSTEM CALL INTERFACE(s)
MOST PRIVILEGED MEMORY
PRIVILEGED PROCESSOR REGISTERS
36
36
36
34
36
32
Data Center / Multiple Hosts
Figure 14A
Figure 14
Fig. 14A
Fig. 14B




Data Center / Multiple Hosts

*Figure 14B*




Multiple Ultravisor Resource Partitions

*Figure 15*